

South Dade Conditions: Southern Glades and Eastern Panhandle *November 2019 – October 2020*

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**C-111 Overbank Flows
(Looking southwest)**

Covered in this Presentation

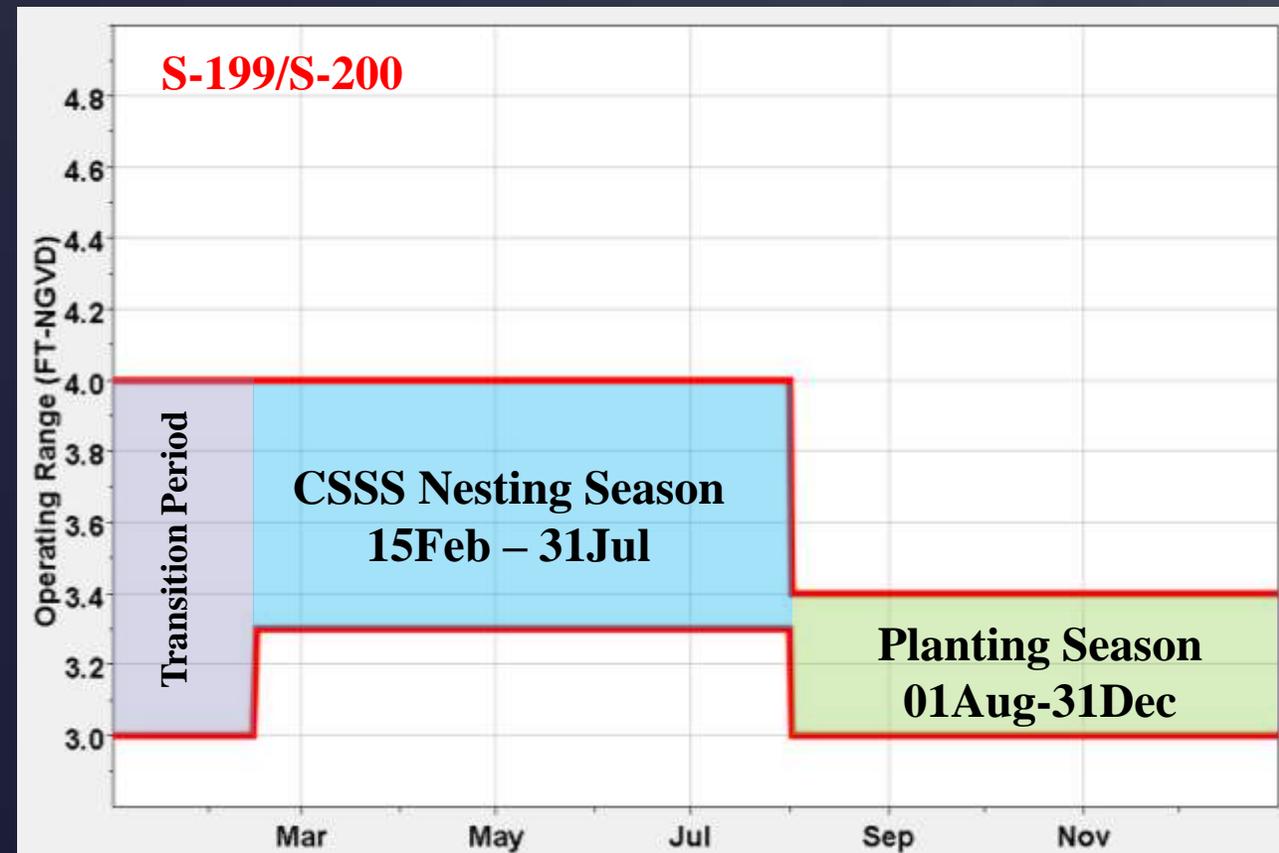
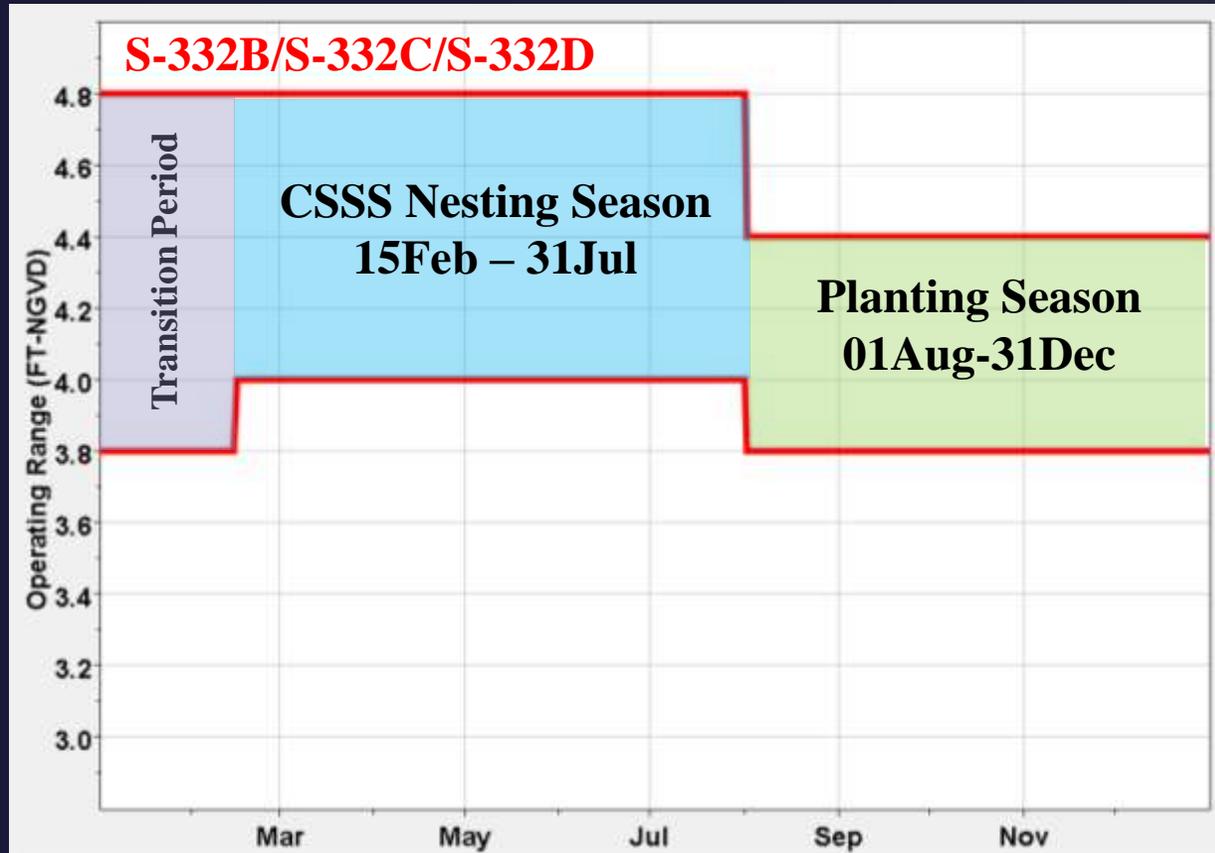
- Water management in L-31N/C-111 Canals
- Rainfall contributing areas, volumes of rainfall
- Inflow and outflow through canal reaches and effect on stage
- Operations of S-18C and S-197 Structures
 - Recent performance and COP

Features in South Dade



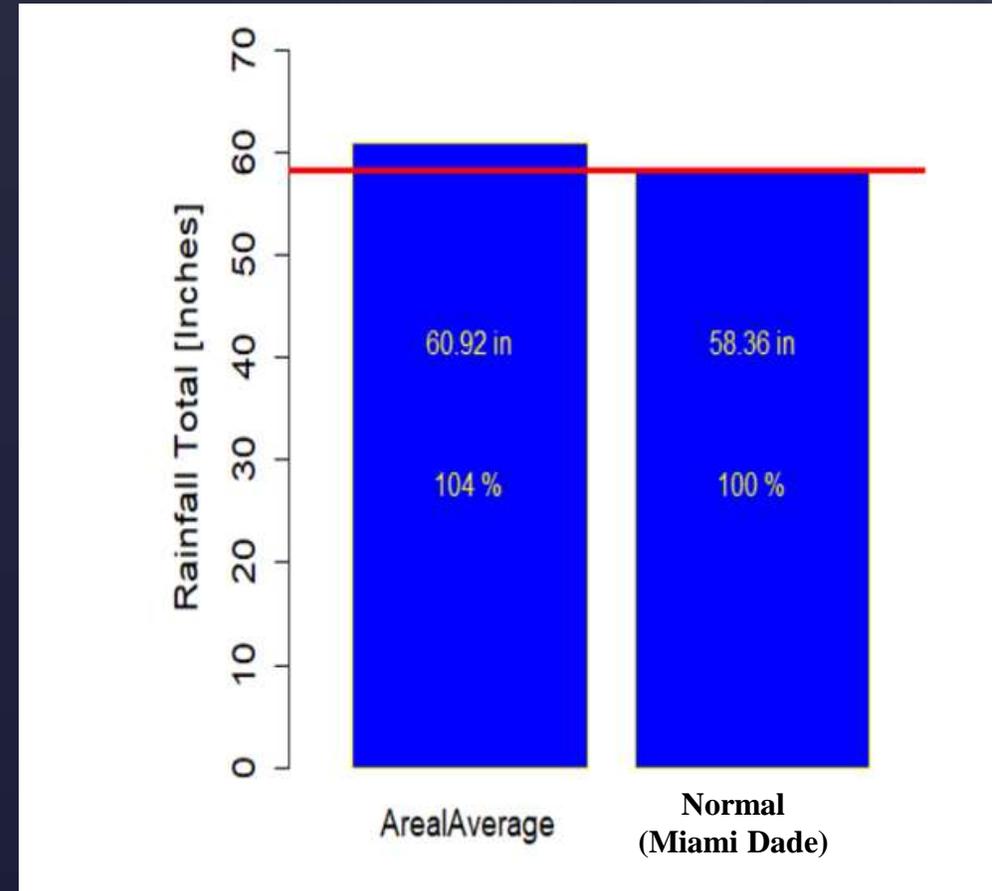
- Detention areas
 - North Detention Area (1,450 acres)
 - South Detention Area (1,310 acres)
 - S-332D Flowway (800 acres)
 - Frog Pond Detention Area (590 acres)
- Pumps in L-31N/C-111 Canals
 - S-332s (3 x 575 cfs)
 - S-199 & S-200 (2 x 300 cfs)
- Canals
 - L-31N/C-111 Canals
 - C-200 Header Channel connection to L-31W canal
 - Plugs in the C-110 canal (north of C-111 Canal)
 - Aerojet Canal (Plugs)

Operating Ranges for Pumps along L-31N/C-111 Canals Combined Operational Plan



Rainfall During November 2019 - October 2020

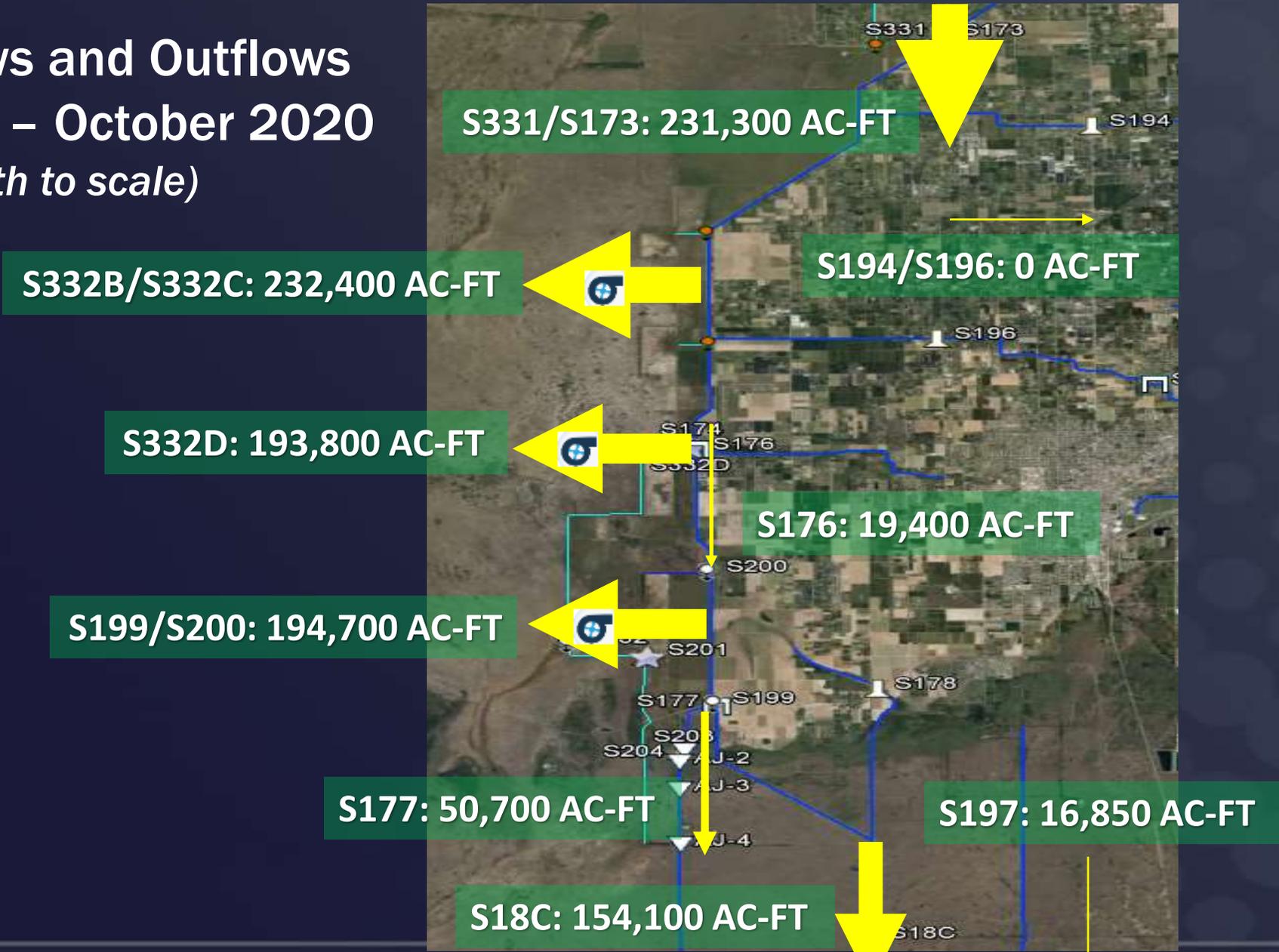
- L-31NS and C-111AG basins received above normal rainfall (107 and 115% of normal) for Eastern Miami Dade County
- C-111S basin received about average rainfall (95 % of normal)
- Total areal average rainfall for the three basins is 61 inches (104% of long-term normal)



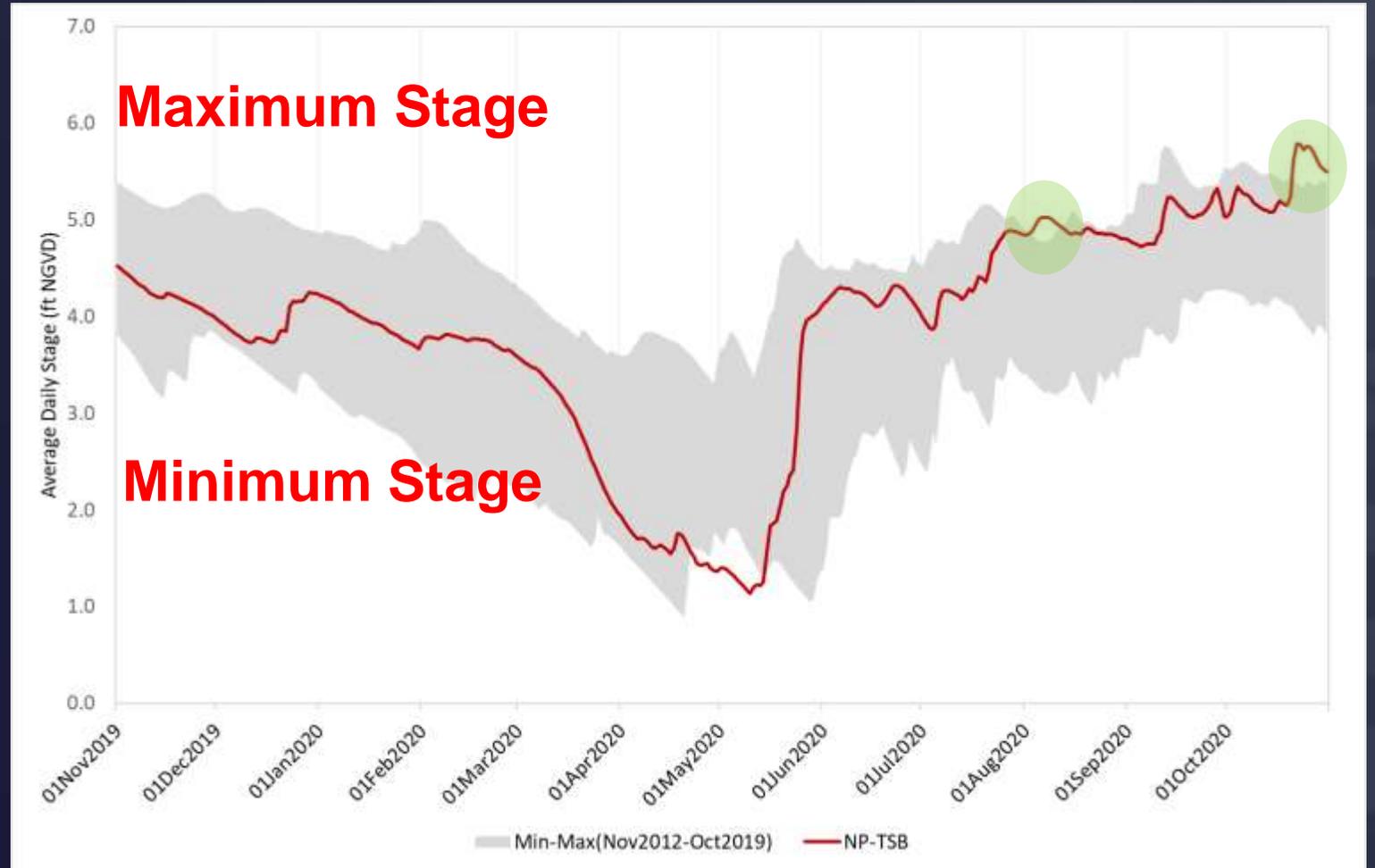
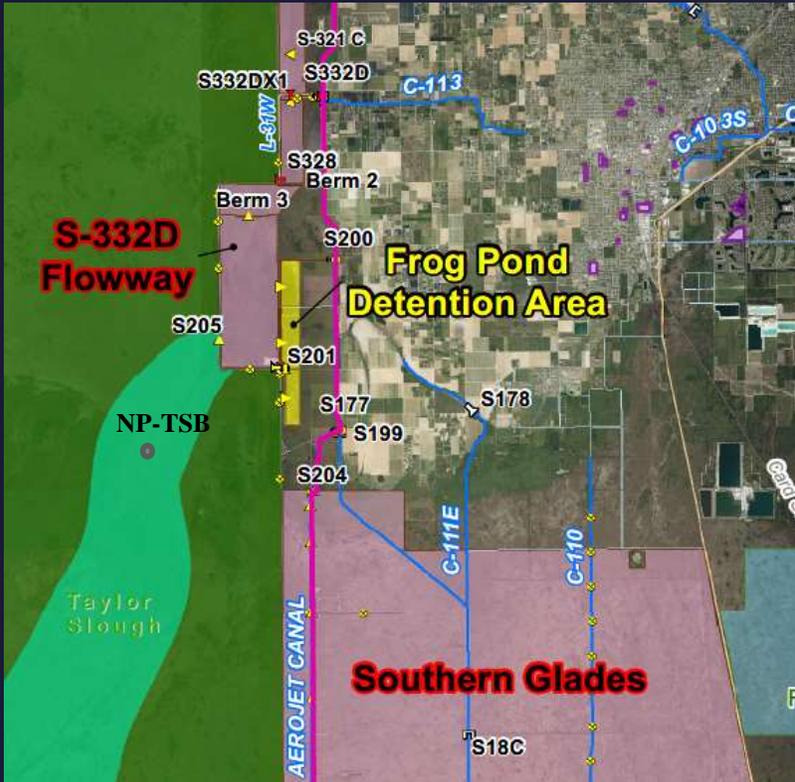
Structure Inflows and Outflows

November 2019 – October 2020

(arrow width to scale)



Water Stages at Taylor Slough Bridge in ENP [NP-TSB]

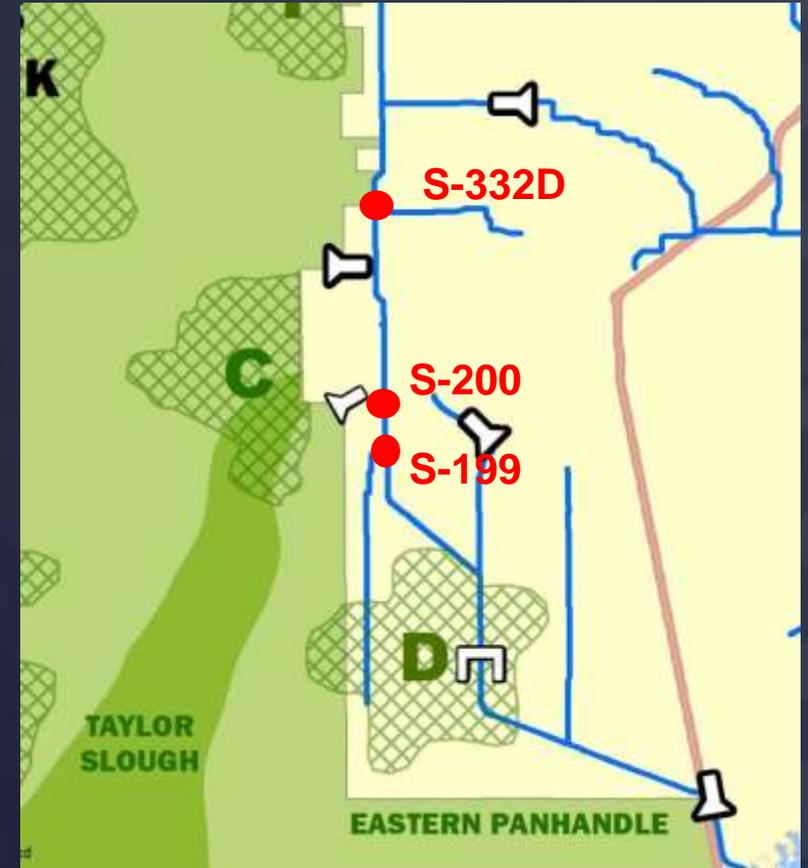


Operations for L31N/C-111 Canal for Cape Sable Seaside Sparrow

- Combined Operating Plan (COP) Biological Opinion

S-332D pumping restrictions (total capacity 575 cfs)

- 500 cfs (15 July to 31 Dec)
- 325 cfs (1 Jan to 31 Jan)
- 250 cfs or 375 cfs with use of S332DX1 (01 Feb – 14 Jul)

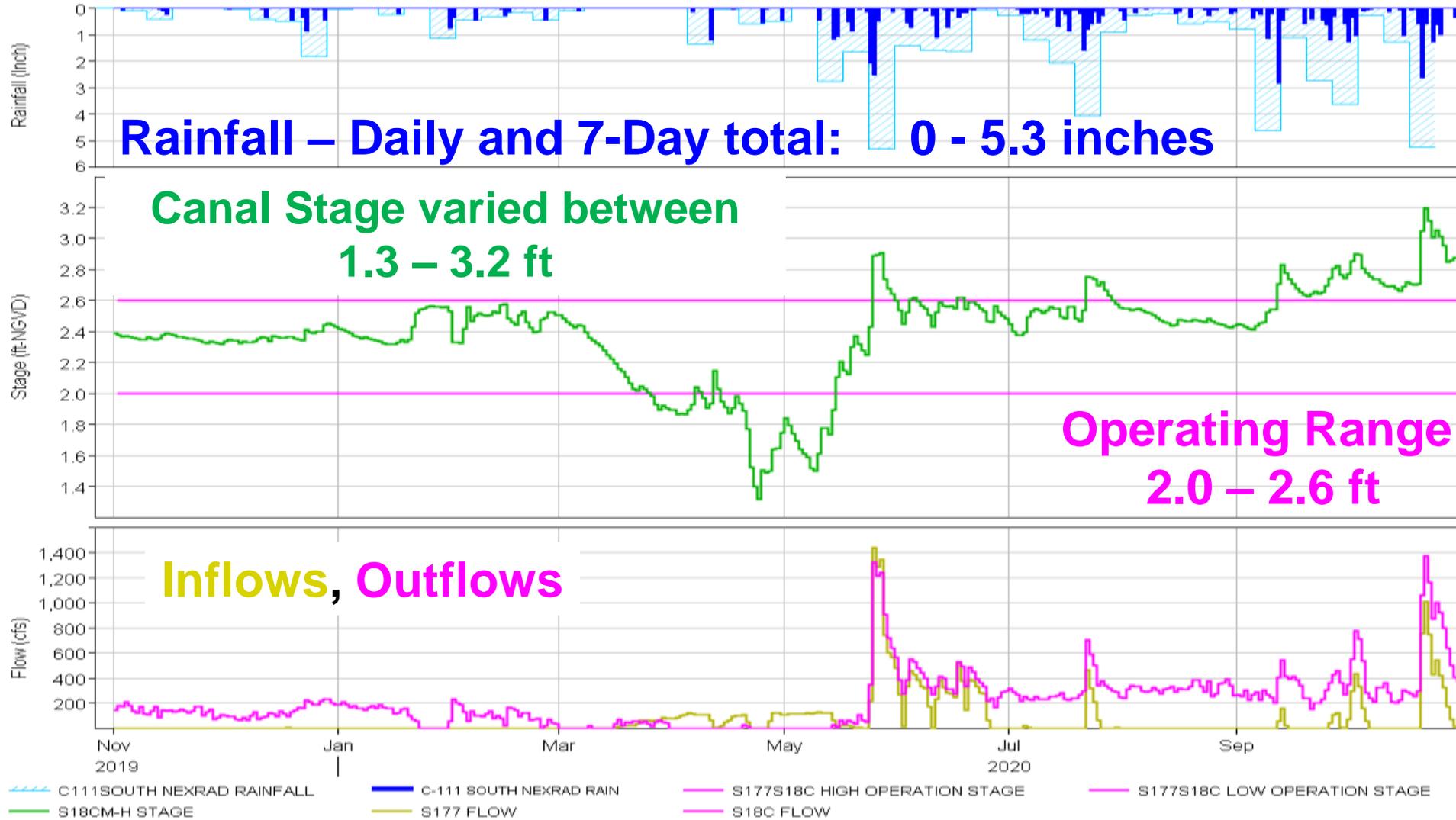


Operations for L31N/C-111 Canal for CSSS

- C-111 Spreader Canal
Western Project Biological Opinion
 - S-199 pumps secured if monitoring station EVER4, (CSSS Critical Habitat Unit 3), exceeds ten centimeters) during the critical portion of the nesting season identified by the USFWS (March 15 to June 30).
 - S-200 pumps secured if monitoring station R3110 (CSSS Critical Habitat Unit 2) exceeds ten centimeters during the critical portion of the nesting season identified by the USFWS (March 15 to June 30).

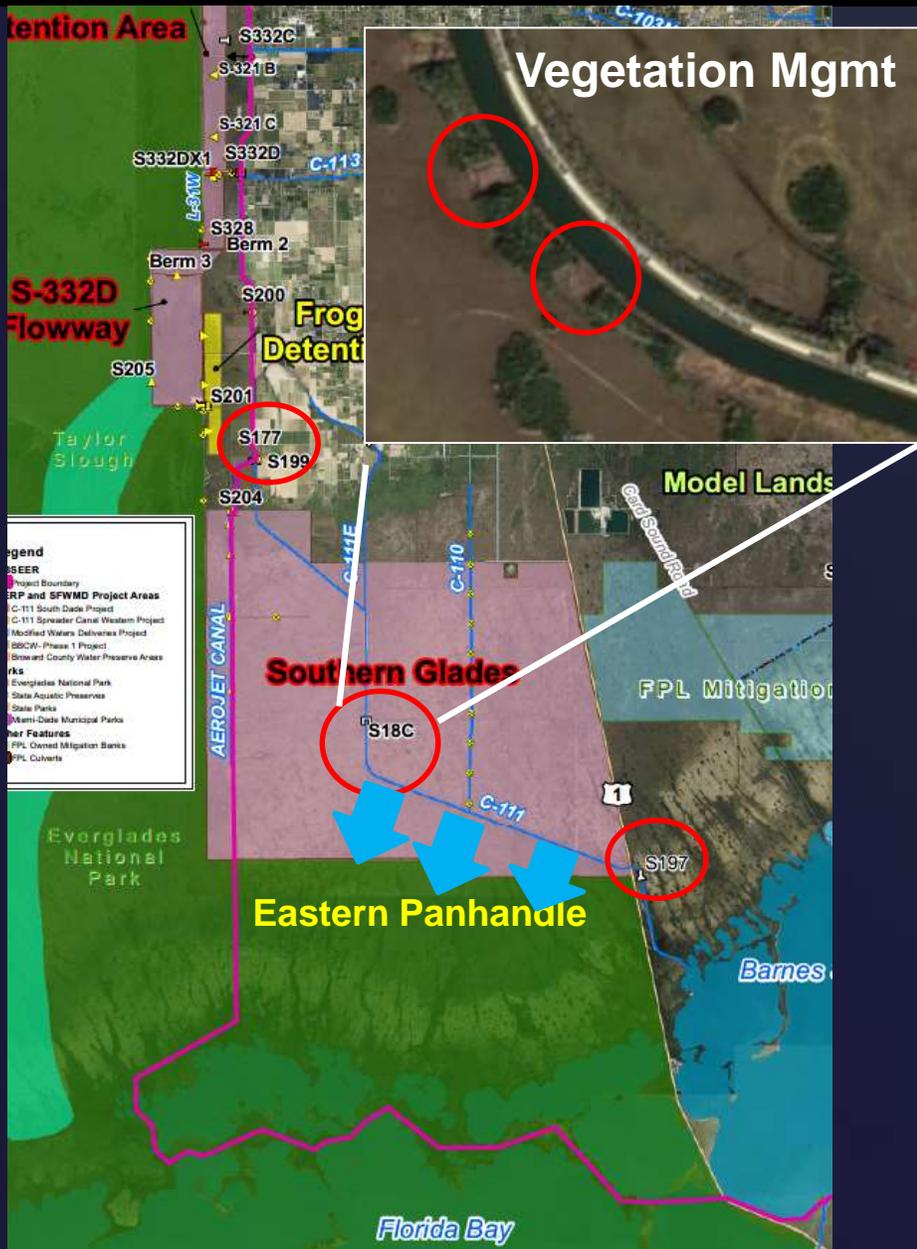


C-111 Canal Reach b/n S-177 and S-18C



Eastern Panhandle of ENP

- Refined operations during South Dade Study and Combined Operating Plan
- During rainfall events or wet conditions, S-177 may be opened to send water further south in the system to S-18C.
- Stages in C-111 upstream of S-197 rise, then water flows over “canal bank”. S-18C can remain open until canal stage at S-197 exceed operating range.
- Combined Operating Plan changed S-197 operations to allow lower flow rates. Structure can now be operated remotely and adjustments can be easily made. Three flow rates based on stages:
 - 0<200 cfs, < 800 cfs, <2,400 cfs



Flow to Eastern Panhandle

- C-111 Canal between S-18C and S-197 stage was higher than the minimum western bank elevation almost the entire duration
- S-18C average daily flow 212 cfs; stage 1.2 ft – 3.0 ft NGVD
- S-197 average daily flow was 23 cfs; all flow occurred in October

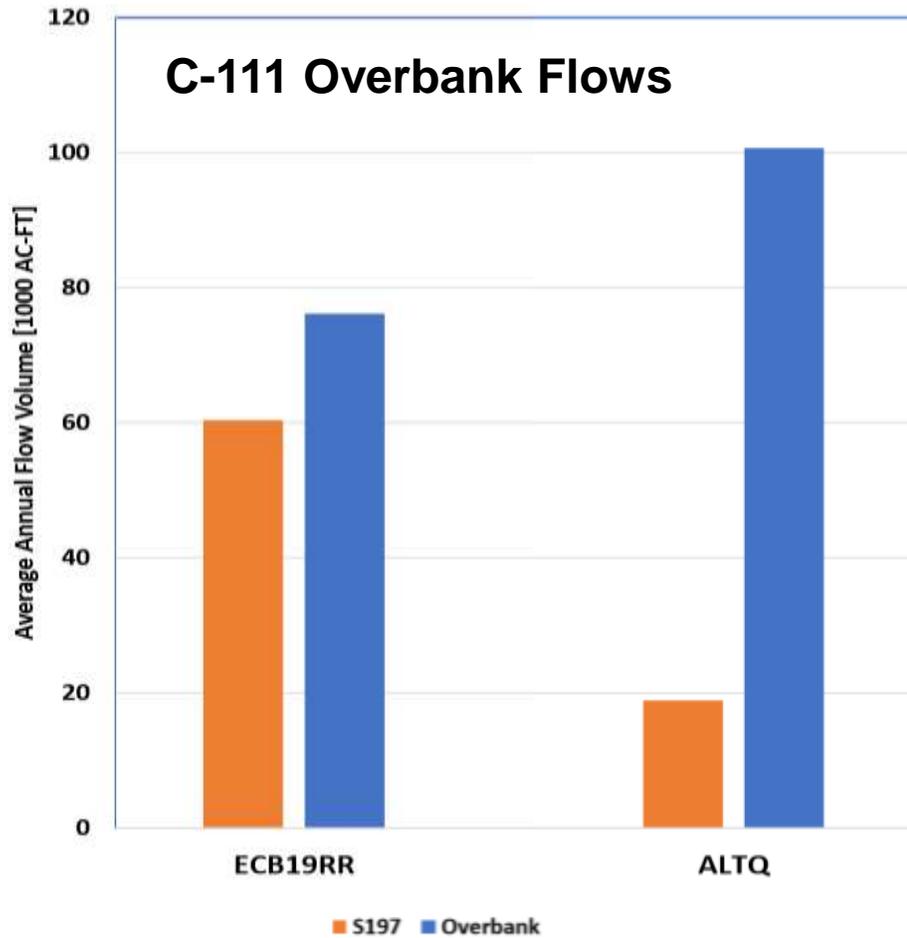


**Max bank elevation
(~2.3 ft NGVD)**

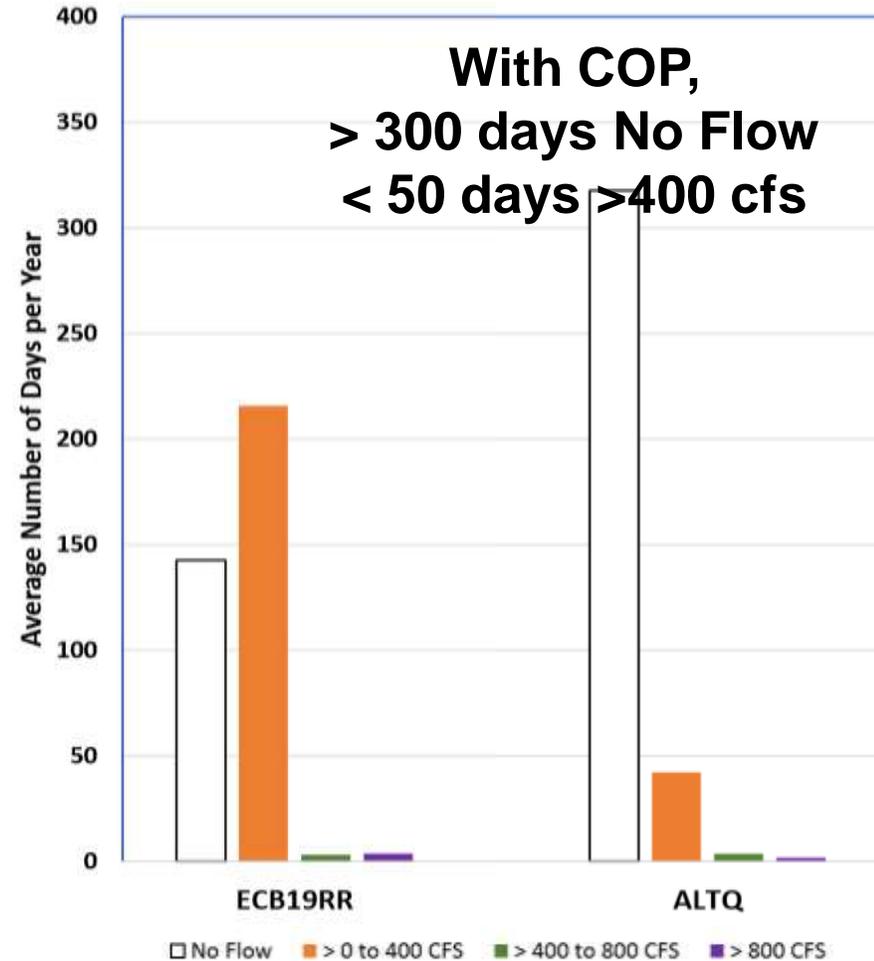
**Min bank elevation
(~1.3 ft NGVD)**

Combined Operating Plan Modeling Results

Outflow from C-111 Canal Between S18C and S197



S197 Daily Flow Distribution – POR [1965-2005]



Questions?